

## **ABSTRACT OF THE DISCLOSURE**

A method and system that expands a word graph to a phone graph. An unknown speech signal is received. A word graph is generated based on an application task or based on information extracted from the unknown speech signal. The word graph is expanded into a phone graph. The unknown speech signal is recognized using the phone graph. The phone graph can be based on a cross-word acoustical model to improve continuous speech recognition. By expanding a word graph into a phone graph, the phone graph can consume less memory than a word graph and can reduce greatly the computation cost in the decoding process than that of the word graph thus improving system performance. Furthermore, continuous speech recognition error rate can be reduced by using the phone graph, which provides a more accurate graph for continuous speech recognition.